SENTINEL™

SIGNALING SYSTEMS

OPERATION MANUAL

SENTINEL PORTABLE VIDEO CONTROLLER

MODEL: PVC

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PUBLICATION NUMBER KTS-12012
FIRST EDITION

KARAS

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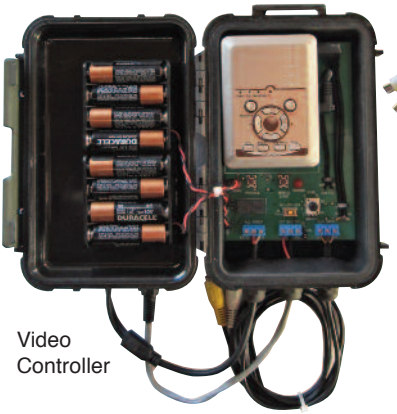
Due to differences in customers requirements there may be discrepancies between your Sentinel and this manual. If you have any questions regarding the operation of the Sentinel Portable Radio Alarms, please contact Karas Technical Customer Service at 831 685-0816 or e-mail customerservice@karastech.com

TYPICAL PORTABLE VIDEO RECORDER SYSTEM COMPONENTS



Video Controller

Monitor

Passive Infrared Sensor

Illuminator

Video Camera

Cable Adaptors

Portable Video Controller shown in Carrying Case

DESCRIPTION:

The Portable Video Controller (PVC) is a small, compact, self-contained video recording system controller in a water resistant case. It's designed to be used in portable and remote installations indoors or out. Ideally suit for stakeouts and surveillance applications. It is light weight, energy efficient, easy to set up and install. It uses a SD memory storage device to store the recorded information and can be read directly from the video recorder or from a computer with an SD card slot. It can be operated with internal batteries and/or external power sources. It can be used with a variety of video cameras and illuminators. With a built in timer, it can be set to record for up to 60 minutes before turning its self off. It is activated by either a wireless sensor such as a magnetic, seismic, passive infrared sensor or any of the wireless Sentinel Portable Alarm sensors. It also has the ability to be activated from a hard wired switch contact. The PVC maximizes its run time by turning off all unnecessary circuits while in the receive mode.

OPERATION:

The video controller is used in conjuction with at a compatible video camera. Most modern compact digital video cameras will work with the system. The selected wireless sensors need to be programmed to the wireless receiver. Once they are programmed and triggered they will active the PVC when ever it is turned on, with either internal or external power source.

The camera and optional illuminator power connections are connected to the timer controlled 12 volt accessory power source. The camera video signal line is connected to the Video input connection. An audio source may also be connected to the audio input connection of the PVC to be recorded on th DVR.

When the PVC is turned on and the wireless receiver is activated by a wireless sensor transmitter signal or the external trigger source it turns on the Digital Video Recorder, (DVR), and the 12 volt accessory lead which activates the camera and other accessories. The built in timer allows the user to set the DVR run time to be set from 1 to 60 minutes. When the run time elapses, the PVC goes back into the receive mode and waits for another wireless signal to activate the DVR.

When the controller is activated in the internal power source mode, the controller uses 8 AA batteries to power the video controller and the camera and any other external device requiring 12 volts. the internal batteries will operate the wireless receiver for 4 days on AA alkaline batteries. The record time will be increased with NiMH batteries by almost double. Increased record time will reduce the time the receiver will operate. Recording for 60 minutes with alkaline batteries will reduce the useable wireless receiver time by about half of what it would be if it didn't record at all. In the external power mode, the internal circuitry operates from a 10 to 15 DC power source such as a AC Adaptor or a 12 volt battery. The length of run time is longer with a larger battery. A 7Ahr sealed lead acid battery, well charged at room temperature, will typically operate the system for 12 to 15 days with minimal recording time.

CONTROLS:

The Video controller has four control functions, two momentary switch buttons, one three position slide switch and a run time control potentiometer.

The PROGRAM button is used to program the wireless sensors to the built-in wireless receiver. The MANUAL START button is used to manually activate the controller during setup.

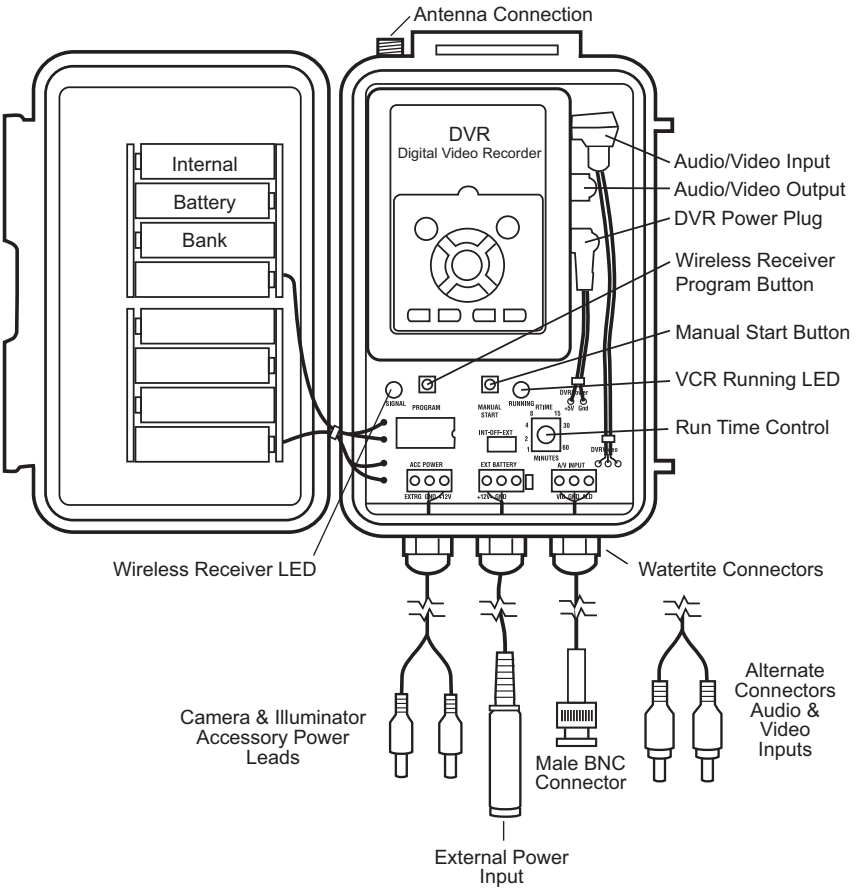
The slide switch(INT-OFF-EXT) is used to turn on the video controller from either of two different sources of power. In the INT position, the video controller is getting its power from the internal batteries. In the EXT position the video controller is getting its power from an external source, such as a larger battery or AC Adaptor power source. The center position is the OFF position.

The Run Time (RTIME) potentiometer determines the amount of time the DVR is powered on. It can be set for 1 to 60 minutes or in setup, it can be set to run in seconds, up to 60 seconds, by removing the Secs jumper.

INDICATORS:

There are two LED indicators on the video control board. One is the SIGNAL indicator from the wireless receiver. It also is used to indicate program status while programming wireless sensors to the receiver. How these features are used are described in the wireless receiver programming. The RUNNING LED indicates when the video controller is powering up the DVR and accessories.

VIDEO CONTROLLER LAYOUT DIAGRAM



SET UP CONNECTION SYMBOLS:

CON 1 — M M — Male RCA to Male RCA

CON 2 — M F — Male RCA to Female BNC

CON 3 — F F — Female BNC to Female BNC

CON 4 — F M — Female RCA to Male BNC

CON 5 — F F — Female RCA to Female RCA

CON 6 — M M — Male RCA to Male BNC

BNC T

POWER — Female

POWER — Male

POWER Y

RCA A/V CABLE

SET UP:

Parameter Set Up. Before going into the field to set up the PVC system it is wise to check and adjust DVR settings if necessary. Use the Playback Set Up with the AC Adapter for power to check DVR set up parameters.

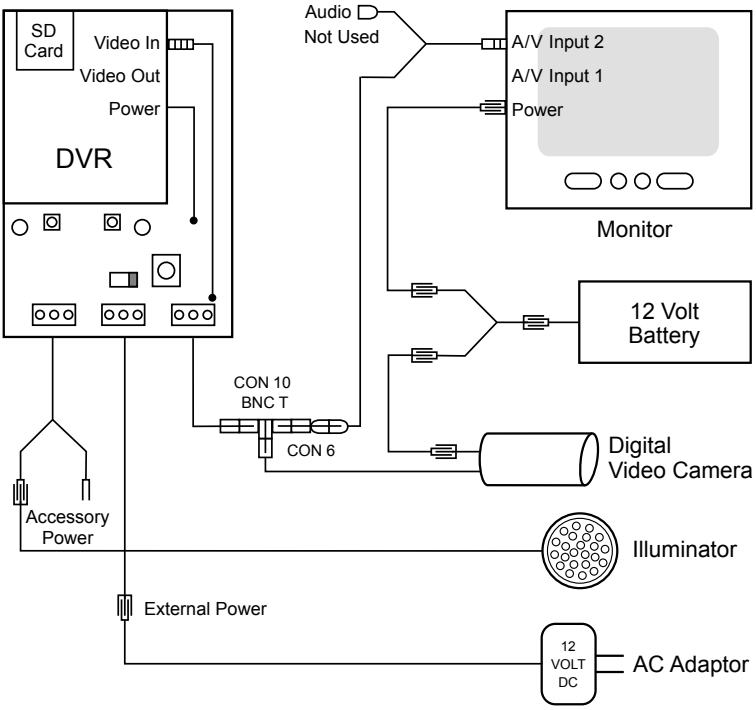
Use the External Power Source, Battery or AC Adaptor to power the monitor and camera during set up while aligning the camera. If necessary, you may use the internal PVC batteries for set up but you will reduce the operate record time by draining some of the power from the batteries. When camera set up is complete disconnect monitor and connect illuminator if used. Disconnect external battery from monitor/camera set up and reconnect to the External Power Input if the AC Adapter is not used. You may use any 12 VDC power source during camera set-up.

The DVR only records when it senses a video signal. It saves video to the SD card when video stops with the accessory power turned off. If the DVR is shut off before or at the same time as the camera the video data will not be recorded. Be sure to power Video Camera with accessory power or the DVR will not record properly.

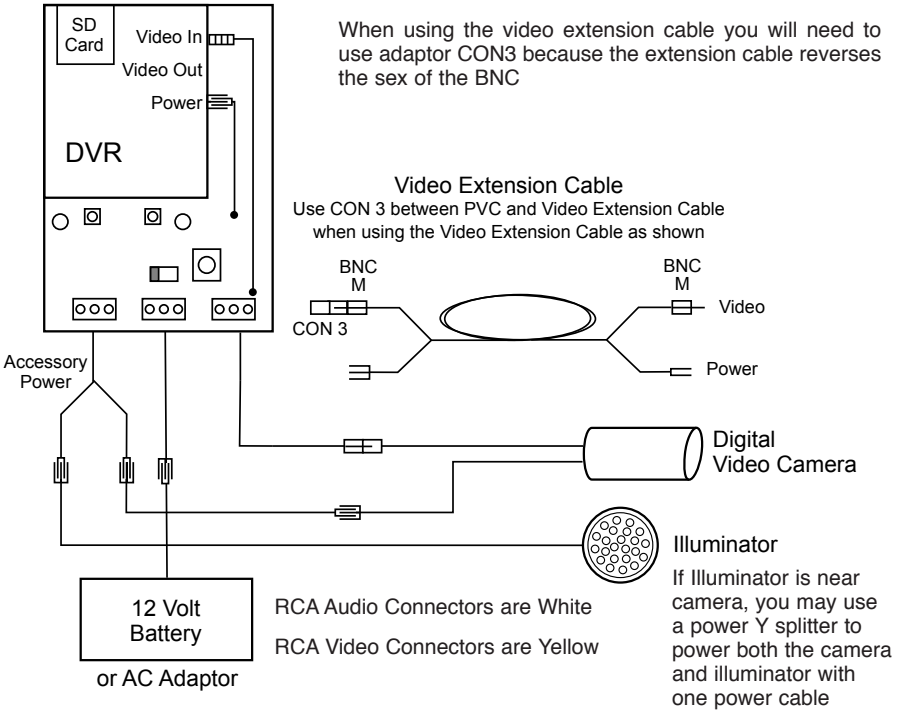
These diagrams do not use the Audio Input circuits. If Audio Recording is desired you will need to connect an audio cable to the PVC Audio Input circuit and connect a microphone to the audio cable. See Video Controller Diagram.

Although these diagrams show typical connections, you may wire up other devices with different types of connectors using the appropriate adaptors.

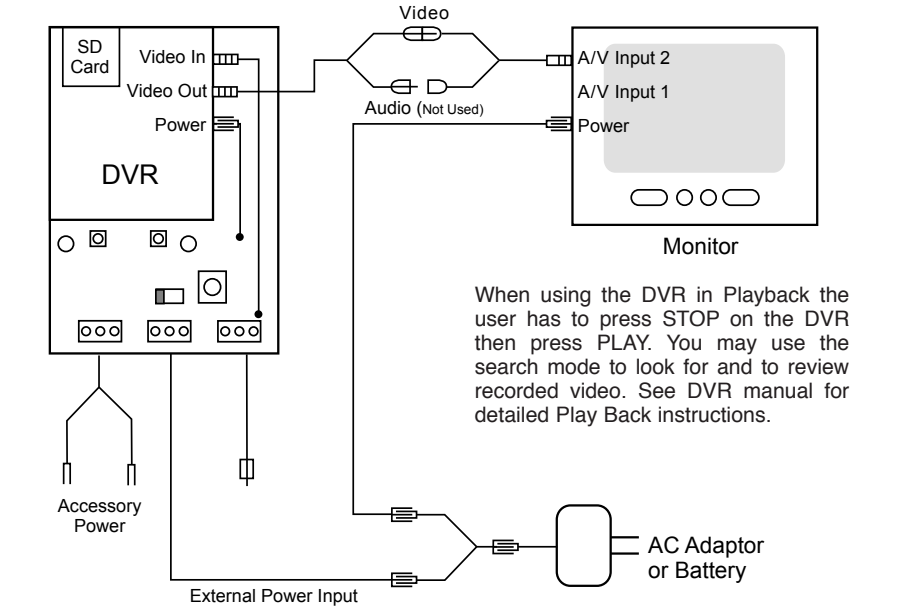
TYPICAL BNC VIDEO SET UP DIAGRAM



OPERATE DIAGRAM


SD Card
Video In
Video Out
Power
DVR
When using the video extension cable you will need to use adaptor CON3 because the extension cable reverses the sex of the BNC
Video Extension Cable
Use CON 3 between PVC and Video Extension Cable when using the Video Extension Cable as shown
BNC M
CON 3
BNC M
Video
Power
Accessory Power
Digital Video Camera
Illuminator
If Illuminator is near camera, you may use a power Y splitter to power both the camera and illuminator with one power cable
12 Volt Battery
or AC Adaptor
RCA Audio Connectors are White
RCA Video Connectors are Yellow

PLAY BACK DIAGRAM


SD Card
Video In
Video Out
Power
DVR
Video
Audio (Not Used)
A/V Input 2
A/V Input 1
Power
Monitor
When using the DVR in Playback the user has to press STOP on the DVR then press PLAY. You may use the search mode to look for and to review recorded video. See DVR manual for detailed Play Back instructions.
Accessory Power
AC Adaptor or Battery
External Power Input

DVR PROGRAMMING / SET UP:

The DVR comes set up from the factory for immediate use. These parameter value settings are required for proper operation of the Sentinel Portable Video Controller. Should you need to change them for different record rates, etc. see the DVR manual. DVR manual can be downloaded for our website: www.karastech.com/Documents/MDVR-14manual.

DVR Power Switch needs to be in the DC Power Position

Refer to DVR manual for complete overview of all programming modes

Set R time to 60 minutes, to allow DVR to run continuously for 60 minutes while performing set up procedures.

Factory Default N/A — If used, complete Set-Up Procedure is required

System Status — SD Full : Stop

- Manual : 704 x 480 10 FPS MQ
- Motion : OFF 12:00 - 23:59 — Do Not Change
  352 x 240 30 FPS MQ
- Continue : ON 00:00 - 23:59 — Do Not Change
  704 x 480 30 FPS MQ

SD Card — Format > use F to reformat the SD card.
This erases all data on the SD card
Upgrade Boot loader > Do Not Use except to upgrade software

Schedule Record

- : OFF 12:00 - 23:59 — Do Not Change
  352 x 240 30 FPS MQ
- : ON 00:00 - 23:59 — Do Not Change
  704 x 480 30 FPS MQ

Motion Record : OFF — Do Not Change

Continue Record : ON — Do Not Change

Schedule : 00:00 - 23:59 — Do Not Change

Video Size : 704 x 480
Frame Rate : 10 FPS
Quality : Medium
Audio : Off
— OK to Change

Manual Record

Video Size : 704 x 480
Frame Rate : 10 FPS
Quality : Medium
Audio : ON
— OK to Change

Set Motion Detect — NA Leave at system default (Do Not Use)

Set Date / Time — Set Date : / Set Time : — Set for Current Date and Time

Search & Play — Use for Playback from MDVR

WIRELESS RECEIVER:

The wireless receiver senses up to 32 transmitters. It is compatible with the standard sensors used with the Sentinel Radio Alarm. You may use the same sensors to activate the PVC system as well as Sentinel Radio Alarms, activating both systems at the same time.

Programming Receiver Memory:

Programming wireless sensors to be received by the wireless receiver is very simple.

1. the PVC has to be powered on, put power select switch in one of the two power modes, internal or external. This turns on the receiver.
2. Now press and release the program button on the PVC circuit board.
3. The program signal indicator will light if there is room in the memory for another sensor transmitter. (32 transmitter max.)
4. Send a signal from the wireless transmitter, the signal indicator light will flicker as the signal is received.
5. Repeat steps 2 thru 4 for each additional transmitter. (Note: The receiver can memorize each transmitter more than once. To prevent duplicate entries, program each transmitter into the receiver only once.)

Checking Memory:

1. Press and hold for about two seconds until program signal indictor lights, then release.
2. Count the number of indicator blinks. This is the total number of transmitters programmed.

System Testing:

1. Set the Rtime control on the PVC circuit board to one minute.
2. Activate each transmitter one at a time.
3. Look for the Running indicator to light. This indicates the signal was received. The PVC will run for about one minute. To terminate the Run time, turn the power off momentarily a repeat the process for each transmitter. You may remove the Secs jumper the operate in seconds mode so the run time may be set to just a few seconds thus eliminating the need to power off reset to restart the recorder.

Erasing Memory:

1. Press Program Button and continue hold it through the count of the number of transmitters
2. Continue to hold the button after the count until the Signal indicator blinks one more time (about five seconds after the count)
3. All transmitters programmed into memory will now be erased.

WIRELESS SENSOR TRANSMITTERS

Any of the Sentinel wireless sensors are able to activate the PVC. See the Sentinel Portable Alarm Manual 2200 Series, for a more comprehensive list of Sensor Programming or individual sensor data sheets for programming activation.

SPECIFICATIONS:

Video Controller:

Enclosure size: 8″ x 5″ x 3.75″ Pelican waterproof case with weather tite fittings for .25” diameter cables

Power source: Internal 8 AA batteries; External AC adapter or other battery

Interfaces: accessory power output, external power input, receiver antenna, DVR video and audio inputs and outputs

Typical operating time from internal batteries, 30 minutes record time, 3 - 4 days; external power recording time unlimited with AC adapter.

Operating temp.: -10ºC to 50ºC

Digital Video Recorder (DVR):

NTSC/PAL compatible video, low, medium, high resolutions, minimum of 75 minutes record time per GByte.

Storage Media SD card, audio sampling 44.1 khz monoral (see DVR user manual for complete specifications) www.karastech.com/Documents/MDVR-14manual

Video Camera: As shown in the photo of System Components prefacing page 1.

NTSC/PAL compatible, 1/3″ Sony Super HAD CCD. Low Lux sensitivity .05, Operating voltage 12V +/- 10% typical. Most video cameras will work with the PVC.

Power Consumption: 65 mA or less

Video Monitor:

See specific monitor specification sheet.

Sensors:

Compatible with all Sentinel Portable Radio Alarm sensors (Linear DX)

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